COMPUTER DATA ENTRY METHOD AND APPARATUS

BACKGROUND

The present invention relates generally to a method and apparatus for entry of data into a computer. More particularly, the present invention relates to the entry of data into a computer with an abbreviated keyboard using two or more strokes to enter a single character into the computer.

A number of apparatus are known for the entry of data into a computer with an abbreviated keyboard. Morely, et al., U.S. Pat. No. 4,005,388 disclosed a hand-held system having a keyboard, a portion of which is similar to a telephone dialing system. Each of the keys in the keyboard have several alphanumeric characters. By actuating one of the keys on the keyboard and then actuating a set of keys on the side of the keyboard, one of the characters of each key can be selected for input into the computer.

U.S. Pat. No. 3,772,597 to Stover discloses a nine-key keyboard in which each key can be used for entering any one of four different letters. Each of the keys is set up as a rocker key so that when pushing the key to any one if its sides a different letter will be activated.

U.S. Pat. No. 3,967,273 to Knowlton discloses a keyboard on a telephone in which each key has a plurality of letters, numbers or other symbols. By first pressing one of the keys on the keyboard and then pressing a second key which indicates a particular location of the particular character on the first key pressed, a particular character can be entered into the computer.

U.S. Pat. No. 4,029,915 to Ogima and U.S. Pat. No. 4,449,839 to Bleuer disclose keyboards having a set of rocker keys in which each rocker key can be used for entering any one of several different characters into a computer.

U.S. Pat. No. 4,385,291 to Piguet discloses a system for entering information into a small computer within a watch. In this system a range of digits are displayed in display window 2. Key 7 can select a particular range to be displayed and a larger segment of the range is selected by a key 5 and the particular letter within the range is selected by key 6. In this manner, various characters can be entered into the computer utilizing a minimum number of keys.

U.S. Pat. Nos. 4,486,741 to Nozawa, et al., 4,481,508 to Kamei, et al., 4,340,887 to Dias II, 4,202,038 to Petersson, 4,201,489 to Zapp, and 4,124,843 to Bramson, et al. that illustrate additional keyboard art.

SUMMARY OF THE INVENTION

The present invention involves an abbreviated keyboard wherein each key represents a plurality of characters. Depression of a key of the keyboard causes the generation and transmission of a first electronic signal to a computer. The computer receives the signal and, according to a predetermined algorithm, generates a best guess of which one of the plurality of alphanumeric characters represented by the key and the signal sent to the computer is desired to be ultimately entered into the keyboard. A second electronic signal is generated by the computer and transmitted to a display to cause the display to indicate the best guess. By subsequent stroke or strokes of the keyboard, the guess is either selected if correct, or, if incorrect, changed until the correct alphanumeric character is guessed.

The computer programmed with the algorithm for making the guesses may be remote to the keyboard or contained within the keyboard such as by the incorporation of an appropriate microchip. If remote, the computer may be the same computer to which data will be transferred or may be an associated apparatus. Such associated apparatus may include display means for displaying the guess. In one embodiment the keyboard and display means are integral with a telephone. A secondary display means is provided to show a string of characters previously transmitted, or accumlated in buffer for subsequent transmission.

In another embodiment, a monogram pattern is utilized wherein each key of the keyboard corresponds to one portion of the monogram pattern. The mosaic pattern is displayed on the keyboard or associated apparatus. Depression of the key will change the state of the corresponding portion of the displayed monogram pattern between illuminated and not illuminated. The computer or microchip in communication with the keyboard receives the signal and determines one or more best guesses of the desired character according to a predetermined algorithm. These best guesses are displayed on a display provided on the keyboard, or alternatively, on associated apparatus. Subsequent strokes of the keyboard select one of the best guesses or change the mosaic pattern to initiate the generation of a second round of best guesses.

The present invention allows communication with and entry of data into a computer from a standard telephone utilizing a standard telephone keyboard. The computer is connected to a phone line and processes the signals generated by the standard twelve telephone keys. Return signals from the computer are received by auxiliary apparatus provided in line to accept and process the signals between the keyboard and the computer. Alternatively, the computer may generate second electronic signals which cause audible enunciations through the phone handset which are simulative of human speech, prerecorded human speech, or at least human understandable code such as Morse code.

An object of the present invention is a method of entering data into a computer.

Another object of the present invention is a method of entering data into a computer wherein an operater causes a first signal which corresponds to a plurality of characters to be transmitted to the computer, the computer generates a second signal corresponding to a best guess of which of the plurality of characters is intended and the operator causes a third signal to be transmitted to the computer to initiate the transmission of the guessed character or the generation of a second guess.

A further object of the present invention is an apparatus for entering data into a computer.

A still further object of the present invention is an apparatus for entering data into a computer wherein an abbreviated keyboard is used.

Yet another object of the present invention is an apparatus having the foregoing advantage and which uses a standard telephone keyboard.

Other objects and advantages of the present invention will be readily apparent from the following description and drawings which illustrate the preferred embodiments of the present invention.